Amendments to the Claims:

1. (Currently Amended) A method for automatically generating an integrated data model of a product, the method comprising:

defining a uniform rule set ~~relating to producing a data model of the product~~;

inputting a first input file defining parameters descriptive of the product;

generating a first data model of the product, the principal components of which are defined in accord with the input file;

optimizing the first data model by applying the uniform rule set to the first data model ~~in light of the contents of the rules database~~ to generate a second data model;

examining the second data model by compiling at least one compliance measure based upon the rule set; and

generating a second input file ~~in light of the~~ based upon an examination of the at least one compliance measure ~~examining of the second data model~~.

2. (Original) The method of Claim 1, wherein the uniform rule set comprises sets of rule-based templates of systems to exist in the product.

3. (Original) The method of Claim 2, wherein the uniform rule set comprises rule-based templates of components of the systems.

4. (Original) The method of Claim 3, wherein the rule-based template is automatically defined.

5. (Original) The method of Claim 3, wherein the rule-based template is manually defined.

6. (Original) The method of Claim 1, wherein the first input file comprises dimensions of the product.

7. (Original) The method of Claim 1, wherein the first input file comprises parameters of systems to exist in the product.

8. (Original) The method of Claim 7, wherein the first input file comprises parameters of components of a system.

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9. (Original) The method of Claim 8, wherein the parameters of the components further comprise placement of components of a system.

10. (Original) The method of Claim 9, wherein the parameters are user-defined.

11. (Original) The method of Claim 7, wherein the parameters comprise mass.

12. (Original) The method of Claim 7, wherein the parameters comprise additional rules.

13. (Original) The method of Claim 1, wherein the uniform rule set comprises physical properties of materials.

14. (Original) The method of Claim 1, wherein the uniform rule set comprises structural assemblies within the product.

15. (Original) The method of Claim 14, wherein the first input file comprises predetermined dimensions of the structural assemblies.

16. (Original) The method of Claim 1, the uniform rule set comprises relationships of dimensions of a plurality of structural assemblies.

17. (Original) The method of Claim 16, wherein the uniform rule set comprises dimensions of available structural components of structural assemblies.

18. (Original) The method of Claim 16, wherein the uniform rule set comprises masses of available structural components of structural assemblies.

19. (Original) The method of Claim 16, wherein the uniform rule set comprises placement of structural assemblies.

20. (Original) The method of Claim 16, wherein the uniform rule set comprises the weight distribution of the product.

21. (Original) The method of Claim 1, wherein examining further comprises a visual check of a three-dimensioned representation of the model.

22. (Original) The method of Claim 1, wherein the examining further comprises downloading model data to software designed for analysis of the product.

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23. (Original) The method of Claim 22, wherein the software is a Computer Assisted Drafting program.

24. (Original) The method of Claim 22, wherein the software is CATIA.

25. (Original) The method of Claim 22, wherein the software is a database.

26. (Original) The method of Claim 22, wherein the software is Oracle.

27. (Original) The method of Claim 21, wherein the examining comprises construction of a physical representation of the model.

28. (Original) The method of Claim 21, wherein examining includes finite element modeling.

29. (Original) The method of Claim 28, wherein finite element modeling includes performing a load balance.

30. (Original) The method of Claim 29, further comprising performing a mass analysis.

31. (Original) The method of Claim 30, wherein the mass analysis creates a weight summary of the generated component structure.

32. (Original) The method of Claim 30, wherein the mass analysis calculates a difference between weight of the finite element model and weight of an actual structure.

33. (Original) The method of Claim 30, wherein the mass analysis calculates a difference between center of gravity of the finite element model and center of gravity of an actual structure.

34. (Original) The method of Claim 1, wherein optimizing comprises scoring models for rules adherence.

35. (Original) The method of Claim 34, further comprising performing a scoring iteration of the model.

36. (Original) The method of Claim 35, wherein the rules can be selectively weighted.

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37. (Original) The method of Claim 1, wherein a finite element model is generated for each of a plurality of components, and wherein the finite element models of the components are interfaced at predetermined interface connections.

38. (Currently Amended) Computer readable medium for automatically generating an integrated data model of a manufactured product, the computer readable medium comprising:

computer readable medium for defining a uniform rule set ~~relating to producing a data model of the product~~;

computer readable medium for inputting a first input file defining parameters descriptive of the product;

computer readable medium for generating a first data model of the product, the principal components of which are defined in accord with the input file;

computer readable medium for optimizing the first data model by applying the uniform rule set to the first data model ~~in light of the contents of the rules database~~ to generate a second data model;

computer readable medium for examining the second data model by compiling at least one compliance measure based upon the rule set; and

computer readable medium for generating a second input file ~~in light of the~~ based upon an examination of the at least one compliance measure~~examining of the second data model~~.

39. (Original) The computer readable medium of Claim 38, wherein the computer readable medium for generating the uniform rule set comprises sets of rule-based templates of systems to exist in the product.

40. (Original) The computer readable medium of Claim 39, wherein the uniform rule set comprises rule-based templates of components of the systems.

41. (Original) The computer readable medium of Claim 40, wherein the rule-based template is automatically defined.

42. (Original) The computer readable medium of Claim 40, wherein the rule-based template is manually defined.

43. (Original) The computer readable medium of Claim 38, wherein the first input file comprises dimensions of the product.

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44. (Original) The computer readable medium of Claim 38, wherein the first input file comprises parameters of systems to exist in the product.

45. (Original) The computer readable medium of Claim 44, wherein the first input file comprises parameters of components of a system.

46. (Original) The computer readable medium of Claim 45, wherein the parameters of the components further comprise a computer readable medium for placement of components of a system.

47. (Original) The computer readable medium of Claim 46, wherein the parameters are user-defined.

48. (Original) The computer readable medium of Claim 45, wherein the parameters comprise mass.

49. (Original) The computer readable medium of Claim 45, wherein the parameters comprise additional rules.

50. (Original) The computer readable medium of Claim 38, wherein the uniform rule set comprises physical properties of materials.

51. (Original) The computer readable medium of Claim 38, wherein the uniform rule set comprises structural assemblies within the product.

52. (Original) The computer readable medium of Claim 51, wherein the first input file comprises predetermined dimensions of the structural assemblies.

53. (Original) The computer readable medium of Claim 38, the uniform rule set comprises relationships of dimensions of a plurality of structural assemblies.

54. (Original) The computer readable medium of Claim 53, wherein the uniform rule set comprises dimensions of available structural components of structural assemblies.

55. (Original) The computer readable medium of Claim 53, wherein the uniform rule set comprises masses of available structural components of structural assemblies.

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56. (Original) The computer readable medium of Claim 53, wherein the uniform rule set comprises placement of structural assemblies.

57. (Original) The computer readable medium of Claim 53, wherein the uniform rule set comprises the weight distribution of the product.

58. (Original) The computer readable medium of Claim 38, wherein examining further comprises a visual check of a three-dimensioned representation of the model.

59. (Original) The computer readable medium of Claim 38, wherein the examining further comprises downloading model data to software designed for analysis of the product.

60. (Original) The computer readable medium of Claim 59, wherein the software is a Computer Assisted Drafting program.

61. (Original) The computer readable medium of Claim 59, wherein the software is CATIA.

62. (Original) The computer readable medium of Claim 59, wherein the software is a database.

63. (Original) The computer readable medium of Claim 59, wherein the software is Oracle.

64. (Original) The computer readable medium of Claim 58, wherein the examining comprises construction of a physical representation of the model.

65. (Original) The computer readable medium of Claim 58, wherein examining includes finite element modeling.

66. (Original) The computer readable medium of Claim 65, wherein finite element modeling includes performing a load balance.

67. (Original) The computer readable medium of Claim 66, further comprising a computer readable medium for performing a mass analysis.

68. (Original) The computer readable medium of Claim 67, wherein the mass analysis creates a weight summary of the generated component structure.

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69. (Original) The computer readable medium of Claim 67, wherein the mass analysis calculates a difference between weight of the finite element model and weight of an actual structure.

70. (Original) The computer readable medium of Claim 67, wherein the mass analysis calculates a difference between center of gravity of the finite element model and center of gravity of an actual structure.

71. (Original) The computer readable medium of Claim 38, wherein optimizing comprises scoring models for rules adherence.

72. (Original) The computer readable medium of Claim 71, further comprising a computer readable medium for performing a scoring iteration of the model.

73. (Original) The computer readable medium of Claim 72, wherein the rules can be selectively weighted.

74. (Original) The computer readable medium of Claim 38, wherein a finite element model is generated for each of a plurality of components, and wherein the finite element models of the components are interfaced at predetermined interface connections.

75. (Currently Amended) A system for automatically generating an integrated data model of a product, the system comprising:

means for defining a uniform rule set ~~relating to producing a data model of the product~~;

means for inputting a first input file defining parameters descriptive of the product;

means for generating a first data model of the product, the principal components of which are defined in accord with the input file;

means for optimizing the first data model by applying the uniform rule set to the first data model ~~in light of the contents of the rules database~~ to generate a second data model;

means for examining the second data model by compiling at least one compliance measure based upon the rule set; and

means for generating a second input file based upon an examination of the at least one compliance measure~~in light of the examining of the second data model~~.

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76. (Original) The system of Claim 75, wherein the uniform rule set comprises sets of rule-based templates of systems to exist in the product.

77. (Original) The system of Claim 76, wherein the uniform rule set comprises rule-based templates of components of the systems.

78. (Original) The system of Claim 77, wherein the rule-based template is automatically defined.

79. (Original) The system of Claim 77, wherein the rule-based template is manually defined.

80. (Original) The system of Claim 75, wherein the first input file comprises dimensions of the product.

81. (Original) The system of Claim 75, wherein the first input file comprises parameters of systems to exist in the product.

82. (Original) The system of Claim 81, wherein the first input file comprises parameters of components of a system.

83. (Original) The system of Claim 82, wherein the parameters of the components further comprise placement of components of a system.

84. (Original) The system of Claim 83, wherein the parameters are user-defined.

85. (Original) The system of Claim 81, wherein the parameters comprise mass.

86. (Original) The system of Claim 81, wherein the parameters comprise additional rules.

87. (Original) The system of Claim 75, wherein the uniform rule set comprises physical properties of materials.

88. (Original) The system of Claim 75, wherein the uniform rule set comprises structural assemblies within the product.

89. (Original) The system of Claim 88, wherein the first input file comprises predetermined dimensions of the structural assemblies.

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90. (Original) The system of Claim 75, the uniform rule set comprises relationships of dimensions of a plurality of structural assemblies.

91. (Original) The system of Claim 90, wherein the uniform rule set comprises dimensions of available structural components of structural assemblies.

92. (Original) The system of Claim 90, wherein the uniform rule set comprises masses of available structural components of structural assemblies.

93. (Original) The system of Claim 90, wherein the uniform rule set comprises placement of structural assemblies.

94. (Original) The system of Claim 90, wherein the uniform rule set comprises the weight distribution of the product.

95. (Original) The system of Claim 75, wherein examining further comprises a visual check of a three-dimensioned representation of the model.

96. (Original) The system of Claim 75, wherein the examining further comprises downloading model data to software designed for analysis of the product.

97. (Original) The system of Claim 96, wherein the software is a Computer Assisted Drafting program.

98. (Original) The system of Claim 96, wherein the software is CATIA.

99. (Original) The system of Claim 96, wherein the software is a database.

100. (Original) The system of Claim 96, wherein the software is Oracle.

101. (Original) The system of Claim 95, wherein the examining comprises construction of a physical representation of the model.

102. (Original) The system of Claim 95, wherein examining includes finite element modeling.

103. (Original) The system of Claim 102, wherein finite element modeling includes performing a load balance.

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104. (Original) The system of Claim 103, further comprising a system for performing a mass analysis.

105. (Original) The system of Claim 104, wherein the mass analysis creates a weight summary of the generated component structure.

106. (Original) The system of Claim 104, wherein the mass analysis calculates a difference between weight of the finite element model and weight of an actual structure.

107. (Original) The system of Claim 104, wherein the mass analysis calculates a difference between center of gravity of the finite element model and center of gravity of an actual structure.

108. (Original) The system of Claim 75, wherein optimizing comprises scoring models for rules adherence.

109. (Original) The system of Claim 108, further comprising a system for performing a scoring iteration of the model.

110. (Original) The system of Claim 108, wherein the rules can be selectively weighted.

111. (Original) The system of Claim 75, wherein a finite element model is generated for each of a plurality of components, and wherein the finite element models of the components are interfaced at predetermined interface connections.

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